

VERIFICATIONS.

Indications.—As worked up and issued to the public three times daily, they have been carefully compared with the actual conditions during the succeeding twenty-four hours, with the following result:—the percentage verified averages 84.2 for New England; 83.0, Middle Atlantic States; 86.6, South Atlantic States; 88.0, East Gulf States; 86.5, West Gulf States; 87.3, Ohio valley and Tennessee; 87.6, Lower Lake region; 86.1, Upper Lake region; 88.0, Upper Mississippi valley; 82.9, Lower Missouri valley. For all the districts the average verified is 86.0 per cent. By elements the percentage verified averages 89.7 for the weather; 88.8, wind-direction; 83.3, temperature; 82.3, barometer. There were 15 omissions to predict, (3 for weather, 3 for wind-direction, 6 for temperature and 3 for barometer,) out of 3,600, or 0.42 per cent. Of the predictions made, 2.7 per cent., are recorded as having completely failed; 3.3 per cent., as one-fourth verified; 14.3 per cent., as one-half verified; 6.5 per cent., as three-fourths verified; 73.2 per cent., as fully verified.

Cautionary Signals.—During the month 147 Cautionary Signals were displayed; 115, or 78.2 per cent., were justified by subsequent hourly velocities of 25 miles or over at, or within 100 miles of, the station. Thirty-three cases were reported of winds of 25 miles or over where signals were not ordered.

NAVIGATION.

Stages of Water in Rivers.—In the table on the right side of chart No. III are given the highest and lowest readings of the Signal Service gauges for the month, with the dates. The changes in the Savannah, Monongahela, Youghiogeny, Ohio, Cumberland, Tennessee, Upper Mississippi and Arkansas were unimportant. In the Allegheny, at Freeport, there was a sudden rise to near the "danger-line" on the 10th and 11th. The Mississippi was high and near the "danger-line" at Vicksburg and New Orleans during the first half of the month. At Shreveport the Red river rose quite steadily up to the 20th and then fell to 24 ft. 10 in. by the 30th. The Missouri was slightly above the "danger-line" at Brunswick, Mo., from the 27th to the close of the month. At St. Joseph, Mo., it rose above the "danger-line" from the 6th to the 14th, and from the 22nd to end of month. It continued above the "danger-line" at Omaha from the 6th to the 13th and after the 19th.

ATMOSPHERIC ELECTRICITY.

Thunder Storms.—1st, Utah, Dakota, Neb., Iowa, Ill., Ind., Wis., Tenn., Ill., Minn. 2d, Dakota, Ind. T., Iowa, Ill., Ind., N. J., Mo., Neb., Ohio, Wis., Fla. 3d, Tex., Miss., Mich., N. Y., Ohio, Pa., W. Va., Ky., Ind., Tenn., Ga., Cal., Ill., La., N. C., S. C. 4th, Ala., Tex., Ind., Tenn., Ga., N. C., Va., Md., N. Y., Col., Ill., Iowa, Ky., Mass., Pa., Vt. Fla., Ind. T., Mont. 5th, Col., Ala., Tex., Ga., N. C., Me., Md., Dak., Minn. 6th, Ind. T., Miss., Tex., Iowa, Wis., Ga. Fla., Col., Ill., La. Neb., Dak., Ind. T. 7th, N. M., Ala., Tex., Mo., Ky., Col., Ill., Mich. Dak., Ind. Ty. 8th, Neb., W. Va., Ga., N. C., S. C., Va., Col., Ill., Kan., La., Miss., Tenn. 9th, Col., Neb., Ohio, Tenn., Ga., N. C., Va., Ala., Ill., Iowa, Ky., S. C., Nev., Fla., Mont. 10th, Col., Ala., Ohio, Mich., Ga., S. C., Fla., Ill., Ind., N. C., Tex., Wy., T., Nev., Mont. 11th, Tex., Ohio, Mich., N. Y., N. J., Pa., N. M., Wy. T., Nev. 12th, N. M., Wy. T., Kan., Neb., Ala., N. J., N. Y., Mass., Conn., Iowa, La., N. H., Pa., Tex., Vt., Va., Md., Dak., Mont. 13th, La., Tex., Mass., Me., N. Y., Conn., Ala., Fla., Neb., N. H., N. J., Ind. Ty. 14th, Neb., Tex., Iowa, La., Dak., Minn. 15th, N. M., Kan., Tex., Mo., Iowa, Mich., Ind., Ill., Ohio, Wis., Dak., Ind. Ty. 16th, Kan., Ohio, Ind., Fla., Ill., Ky. Mo., Neb., N. Y., Tex., Dak., Mont. 17th, Ind. Ty., Tex., Va., N. J., Pa., Ala., Col., Lu., Miss., Tex., Vt., Dak., Mont. 18th, Col., Dak., Ill., Miss., N. Y., S. C., Minn., Ga., N. C., Mont. 19th, Wy. Ty., Col., Dak., Kan., Iowa, Minn., Ga., Fla., Ill., Mo., Neb., Tex., Wis., Ind. Ty. 20th, Wy. Ty., Tex., Minn., Mich., Ohio, Ky., Ind., Cal., Col., Fla., Ill., Iowa, Mo., Ind. Ty. 21st, Col., Tex., N. Y., Pa., Ga. Va., Cal., Fla., Ind., N. C., S. C., N. M., Mont. 22d, Col., Dak., N. J., Pa., Mass., Va., N. M., Fla. 23d, N. M., Col., Kan., Neb., N. H., Me., Dak., Vt., Nev., N. Y., Me., Mont. 24th, Col., Dak., Neb., Minn., Miss., N. Y., Mo., N. J., Pa., Ind. Ty. 25th, Col., Ind. Ty., Tex., Iowa, Dak., Ill., Mo., Neb., Ohio, N. M., Wy. Ty. 26th, N. M., Neb., Mich., Ind., Cal., Col., Ill., Mo., Ohio, Ind. Ty. 27th, Ind. Ty., Tex., Ala., La., Iowa, Ohio, W. Va., Pa., Ky., N. J., Conn., N. Y., N. H., Mass., Me., Fla., Ga., Ind., Mo., N. C., S. C., Tenn., Vt. 28th, Miss., La., Mo., Iowa, Minn., W. Va., Tenn., N. C., Va., Me., Ala., Ill., Ind., La., Md., Neb., N. J., S. C., Tex., Fla. 29th, Col., Dak., La., Tex., Ill., N. C., Ind., Iowa, Ky., Mo., Neb., S. C., Tenn., Wis., Fla., Ga. 30th, Neb., Wis., Mo., Iowa, Ohio, Ga., La., Ala., Cal., Ill., N. C., Tenn., Va., Ind. Ty.

Auroras.—Albany, Argyle and North Volney, N. Y., Cambridge, Mass., Woodstock and Burlington, Vt., 3rd; Auburn, N. H., 4th; Clear Creek, Neb., 26th and 28th.

Magnetic Phenomena.—Prof. G. Hinricks, Iowa City, Ia., reports the average magnetic diurnal range in declination as 8.28 minutes; largest range 15.7 minutes, on the 3rd.

Telegraphic communication interfered with by Atmospheric Electricity.—Santa Fe, greatly, 5th, 7th, 11th, 12th, 15th, 16th, 20th, 26th. Pike's Peak, 3rd, considerable; 5th, severe; 10th, very intense during storm; 15th, intense; 25th, severe, wires cut out. Colorado Springs, Col., 22nd, shattered telegraph poles and melted wires. Dodge City, 11th, atmosphere highly charged, wire from wind-vane emitted sparks. Fort Sill, 13th, obliged to cut out instruments; 30th, communication obstructed. Fred-